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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/903,175

07/11/2001

Kevin Baum

CR00262M

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09/06/2006

MOTOROLA, INC.
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EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,175

Applicant(s)

BAUM ET AL.

Examiner

Kevin Y. Kim

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-11,13-17,20-24,26-30,33,35,36,38,42-74 and 81 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4,7-11,13-17,20-24,26-30,33,35,36 and 38 is/are allowed.
- 6) ☒ Claim(s) 42,44,46-48,53,55,57,59,61-63,68,70,72-74 and 81 is/are rejected.
- 7) ☒ Claim(s) 43,45,49-52,54,56,58,60,64-67,69 and 71 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 42 is withdrawn in view of the newly discovered reference(s) to Schenk et al (US 7,031,410). Rejections based on the newly cited reference(s) follow. The finality of the previous Office action is withdrawn and this action is made non-final.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 42,44,47,53,55,57,59,62 and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Lakkis (US 7,031,371).

Claims 42, 55 and 57.

Lakkis disclose a method of operating a communication apparatus (see Fig.14), comprising:

converting a plurality of receive samples from at least one spread sequence portion into a plurality of frequency domain samples (see FF);

determining an equalized signal based on the frequency domain samples (see equalizer Hard decision 148); and

determining a plurality of frequency domain equalization weights for the frequency domain samples, wherein the frequency domain equalization weights are determined based a plurality of frequency domain channel estimates (see col. 13, lines 45-55).

Claims 44 and 59.

The received samples include cyclic redundancy (see Cyclic Prefix Removal Section 122).

Claims 47 and 62.

The received samples are chip spaced samples (see col.12, line 66 ~ col.13, line 16 discussing combining on a chip by chip basis, indicating the received samples are chips).

Claims 53 and 68.

See Cyclic Prefix Removal Section 122 for removal of cyclic redundancy before frequency domain conversion.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 46 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 7,031,371) in view of Smee (US 7,082,174).

Lakkis discloses all the subject matter claimed except for receiving the respective samples at a plurality of receiver branches. Smee teaches a rake receiver where the respective samples are received at a plurality of receiver branches for the purpose of diversity combining. See Fig. 4A. Thus, it would have been obvious to one skilled in the art at the time the invention was made to provide a plurality of receiver branches, as taught by Smee, to the receiver of Lakkis to enhance signal reception by way of diversity.

5. Claims 48 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis as applied to claim 42 above.

Lakkis fails to teach use a power weight, one of at least one noise power, at least one interference power and at least one noise plus interference power in addition to a plurality of frequency domain channel estimates for the determination of equalization weights. However, these are well known parameters reflecting channel conditions and thus it would have been obvious to one skilled in the art at the time the invention was made to use these parameters as well to better compute the equalization weights.

6. Claims 70,72-74,81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakkis (US 7,031,371).

Lakkis discloses all the subject matter claimed, as explained in paragraph 2, except for that the method is implemented on a program included in a computer readable medium.

Implementation of a communication method on a program included in a computer readable medium is well known in the art and would have been obvious at the time the invention was made.

Allowable Subject Matter

7. Claims 1-4,7-11,13-17,20-24,26-30,33,35,36 and 38 are allowed.

8. Claims 43, 45,49-52, 54,56,58,60,64-67,69 and 71 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

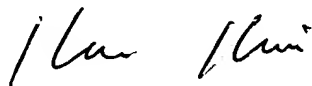
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 1, 2006

AU 2611


KEVIN KIM
PATENT EXAMINER